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=> file casreact
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FILE CONTENT:1840 - 10 May 2008 VOL 148 ISS 20

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database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance
identification.

=> d que
L1          497 SEA FILE=CASREACT THIAZOLIDINEDIONE# OR THIAZOLIDIN-2,4-DIONE#

L2            2 SEA FILE=CASREACT L1 AND DITHIONITE


=> d l2 1-2 ibib abs fcrd


L2   ANSWER 1 OF 2  CASREACT  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:        146:251833  CASREACT
TITLE:                   A process for the preparation of substituted phenyl
                         ether compounds and rosiglitazone
INVENTOR(S):             Ludescher, Johannes; Khan, Rashid Abdul Rehman; Paul,
                         Aniruddha
PATENT ASSIGNEE(S):      Sandoz A.-G., Switz.
SOURCE:                  PCT Int. Appl., 28pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.       KIND  DATE           APPLICATION NO.  DATE
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     WO 2007017095     A1   20070215       WO 2006-EP7315   20060725
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             SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,
             US, UZ, VC, VN, ZA, ZM, ZW
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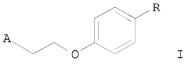
| CA 2616249 | A1 | 20070215 | CA 2006-2616249 | 20060725 | |
| EP 1910294 | A1 | 20080416 | EP 2006-762806 | 20060725 | |

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.: SI 2005-218 20050727
WO 2006-EP7315 20060725

OTHER SOURCE(S): MARPAT 146:251833

GI




I

AB The title process comprises the preparation of substituted Ph ether compds. I [A = aryl, (un)substituted Ph, 1- or 2-naphthyl, etc.; R = aldehyde, cyano, nitro] by reacting ACH2CH2OH [A = as defined defined above] with an appropriate halobenzene derivative in a mixture of a non-polar water immiscible organic solvent and water (two phase system) with an alkali metal hydroxide or an alkali metal carbonate as a base in the presence of a phase transfer catalyst. Thus, a mixture of 2-(N-methyl-N-(2-pyridyl)amino)ethanol, 4-fluorobenzaldehyde, potassium hydroxide, and tetrabutylammonium hydrogensulfate in a mixture of water and toluene was stirred at 49°C to 52°C for about 20 h to give, after workup, 4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzaldehyde (II). II is a key intermediate for preparing rosiglitazone. Rosiglitazone was then prepared in 2 steps from II.
NO HIGHLIGHTING INFORMATION PRESENT

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 2 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 143:7703 CASREACT
TITLE: Process for preparing thiazolidinediones such as pioglitazone via reduction of exocyclic double bonds at the 5-position of thiazolidinediones using dithionite.
INVENTOR(S): Nambiar, Sudhir; Pise, Abhinay Chandrakant
PATENT ASSIGNEE(S): Sandoz A.-G., Switz.
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2005049610 | A1 | 20050602 | WO 2004-EP12149 | 20041027 |

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GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
SN, TD, TG

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|---|---|---|---|---|---|
| AU 2004291257 | A1 | 20050602 | AU 2004-291257 | 20041027 | |
| CA 2543831 | A1 | 20050602 | CA 2004-2543831 | 20041027 | |
| EP 1682539 | A1 | 20060726 | EP 2004-790922 | 20041027 | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK | | | | | |
| CN 1875018 | A | 20061206 | CN 2004-80032105 | 20041027 | |
| JP 2007512240 | T | 20070517 | JP 2006-537175 | 20041027 | |
| IN 2006CN01425 | A | 20070706 | IN 2006-CN1425 | 20060426 | |
| US 20070276012 | A1 | 20071129 | US 2007-577121 | 20070222 | |
| PRIORITY APPLN. INFO.: | | | GB 2003-25174 | 20031028 | |
| | | | WO 2004-EP12149 | 20041027 | |

AB A process for reducing an exocyclic double bond at the 5-position of a thiazolidinedione moiety of a thiazolidinedione precursor comprises: (a) preparing a solution or suspension of the thiazolidinedione precursor in a non-ether solvent medium with a base, and (b) combining the solution or suspension with a dithionite source. Thus, a mixture of 5-[4-[2-(5-ethyl-2-pyridinyl)ethoxy]phenylmethen yl]-2,4-thiazolidinedione (preparation given) and Na2CO3 in H2O/dioxane at 80° was treated with aqueous Na dithionite over 60 min. followed by stirring at 80° for 1 h and at 50° for 1 h to give 82% pioglitazone.

NO HIGHLIGHTING INFORMATION PRESENT

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> => file caplus
FILE 'CAPLUS' ENTERED AT 10:55:55 ON 15 MAY 2008
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FILE COVERS 1907 - 15 May 2008 VOL 148 ISS 20
FILE LAST UPDATED: 14 May 2008 (20080514/ED)

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=> d que
L4          4777 SEA FILE=CAPLUS THIAZOLIDINEDIONE# OR THIAZOLIDIN-2,4-DIONE#
L5             4 SEA FILE=CAPLUS L4 AND DITHIONITE


=> d l5 1-4 ibib abs hit

L5   ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2007:172962  CAPLUS
DOCUMENT NUMBER:          146:251833
TITLE:                    A process for the preparation of substituted phenyl
                          ether compounds and rosiglitazone
INVENTOR(S):              Ludescher, Johannes; Khan, Rashid Abdul Rehman; Paul,
                          Aniruddha
PATENT ASSIGNEE(S):       Sandoz A.-G., Switz.
SOURCE:                   PCT Int. Appl., 28pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.            KIND   DATE        APPLICATION NO.          DATE
     ---------------       ----   --------    -------------------      --------
     WO 2007017095          A1    20070215    WO 2006-EP7315           20060725
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
             KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
             MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU,
             SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,
             US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     AU 2006278874          A1    20070215    AU 2006-278874           20060725
     CA 2616249             A1    20070215    CA 2006-2616249          20060725
     EP 1910294             A1    20080416    EP 2006-762806           20060725
          R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
PRIORITY APPLN. INFO.:                        SI 2005-218          A  20050727
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OTHER SOURCE(S):          CASREACT 146:251833; MARPAT 146:251833
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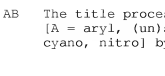


I

AB The title process comprises the preparation of substituted Ph ether compds. I [A = aryl, (un)substituted Ph, 1- or 2-naphthyl, etc.; R = aldehyde, cyano, nitro] by reacting ACH2CH2OH [A = as defined defined above] with an

appropriate halobenzene derivative in a mixture of a non-polar water immiscible organic solvent and water (two phase system) with an alkali metal hydroxide or an alkali metal carbonate as a base in the presence of a phase transfer catalyst. Thus, a mixture of 2-(N-methyl-N-(2-pyridyl)amino)ethanol, 4-fluorobenzaldehyde, potassium hydroxide, and tetrabutylammonium hydrogensulfate in a mixture of water and toluene was stirred at 49°C to 52°C for about 20 h to give, after workup, 4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzaldehyde (II). II is a key intermediate for preparing rosiglitazone. Rosiglitazone was then prepared in 2 steps from II.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT Carbonates, reactions
RL: RGT (Reagent); RACT (Reactant or reagent)
(alkali metal; preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT Diabetes mellitus
(non-insulin-dependent; preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT Solvents
(organic; preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT Amination
Condensation reaction
Etherification
Phase transfer catalysts
Reduction
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT Alkali metal hydroxides
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT Antidiabetic agents
(type II; preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 56-93-9, Benzyl trimethylammonium chloride 75-57-0, Tetramethylammonium chloride 1643-19-2, Tetrabutylammonium bromide 2052-49-5, Tetrabutylammonium hydroxide 4540-33-4 5197-95-5, Benzyl triethylammonium bromide 25316-59-0, Benzyl tributylammonium bromide 32503-27-8, Tetrabutylammonium hydrogensulfate
RL: CAT (Catalyst use); USES (Uses)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 122320-73-4P
RL: IMF (Industrial manufacture); PAC (Pharmacological activity); PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation);

THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 155141-29-0P, Rosiglitazone maleate 847829-45-2P
RL: IMF (Industrial manufacture); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 122321-03-3P 122321-04-4P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 68-12-2, N,N-Dimethylformamide, uses 108-88-3, Toluene, uses
RL: NUU (Other use, unclassified); USES (Uses)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 74772-77-3P, Ciglitazone 97322-87-7P, Troglitazone 111025-46-8P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 122320-74-5P
RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 109-09-1, 2-Chloropyridine 109-83-1, 2-(N-Methylamino)ethanol 110-16-7, Maleic acid, reactions 459-57-4, 4-Fluorobenzaldehyde 2295-31-0, 2,4-Thiazolidinedione
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 497-19-8, Sodium carbonate, reactions 584-08-7, Potassium carbonate 1310-58-3, Potassium hydroxide, reactions 1310-65-2, Lithium hydroxide 1310-73-2, Sodium hydroxide, reactions 17194-00-2, Barium hydroxide
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 7775-14-6, Sodium dithionite
RL: RCT (Reactant); RACT (Reactant or reagent)

(reducing agent; preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

IT 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; preparation of rosiglitazone by reaction of chloropyridine with (N-methylamino)ethanol, followed by reaction with fluorobenzaldehyde in presence of base and phase transfer catalyst, reaction with thiazolidinedione, and reduction)

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:710496 CAPLUS
DOCUMENT NUMBER: 145:159832
TITLE: PPAR modulators for treatment of CFTR mutation-related diseases
INVENTOR(S): Freedman, Steven D.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 36 pp., Cont.-in-part of Appl. No. PCT/US04/013412.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 20060160867 | A1 | 20060720 | US 2005-262645 | 20051031 |
| WO 2004098510 | A2 | 20041118 | WO 2004-US13412 | 20040430 |
| WO 2004098510 | A3 | 20050120 | | |

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| WO 2007053622 | A2 | 20070510 | WO 2006-US42474 | 20061031 |
| WO 2007053622 | A3 | 20070809 | | |

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| PRIORITY APPLN. INFO.: | US 2003-466672P | P 20030430 |
| | WO 2004-US13412 | A2 20040430 |
| | US 2005-262645 | A1 20051031 |

AB The invention features methods for treating diseases associated with

mutations in the CFTR gene including cystic fibrosis by administering PPAR agonists, specifically PPARγ, PPARα, and PPARδ agonists, PPAR inducers, and/or antioxidants. Also disclosed are screening methods for identifying therapeutically useful candidate compds. PPARγ agonist rosiglitazone increased nuclear localization of PPARγ and corrected the PPARγ defect in DNA binding in CFTR-/- mice.

IT 50-81-7, Vitamin C, biological studies 52-90-4, Cysteine, biological studies 1406-18-4, Vitamin E 2295-31-0, Thiazolidinedione 3483-12-3, Dithiothreitol 6217-54-5, DHA 6892-68-8, Dithioerythritol 7235-40-7, β-Carotene 7782-49-2, Selenium, biological studies 14844-07-6, Dithionite 15687-27-1, Ibuprofen 22204-53-1, Naprosyn 23134-05-6, Pyrosulfite 25378-27-2, Eicosapentaenoic acid 25812-30-0, Gemfibrozil 25812-30-0D, Gemfibrozil, analogs 29908-03-0 41859-67-0, Bezafibrate 41859-67-0D, Bezafibrate, analogs 49562-28-9, Fenofibrate 49562-28-9D, Fenofibrate, analogs 50892-23-4, Wy14643 58186-27-9, Idebenone 97322-87-7, Troglitazone 97322-87-7D, Troglitazone, analogs 111025-46-8, Pioglitazone 111025-46-8D, Pioglitazone, analogs 122320-73-4, Rosiglitazone 122320-73-4D, Rosiglitazone, analogs
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PPAR modulators for treatment of CFTR mutation-related diseases)

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:472153 CAPLUS
DOCUMENT NUMBER: 143:7703
TITLE: Process for preparing thiazolidinediones such as pioglitazone via reduction of exocyclic double bonds at the 5-position of thiazolidinediones using dithionite.
INVENTOR(S): Nambiar, Sudhir; Pise, Abhinay Chandrakant
PATENT ASSIGNEE(S): Sandoz A.-G., Switz.
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2005049610 | A1 | 20050602 | WO 2004-EP12149 | 20041027 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 2004291257 | A1 | 20050602 | AU 2004-291257 | 20041027 |
| CA 2543831 | A1 | 20050602 | CA 2004-2543831 | 20041027 |
| EP 1682539 | A1 | 20060726 | EP 2004-790922 | 20041027 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK | | | | |
| CN 1875018 | A | 20061206 | CN 2004-80032105 | 20041027 |
| JP 2007512240 | T | 20070517 | JP 2006-537175 | 20041027 |

IN 2006CN01425 A 20070706 IN 2006-CN1425 20060426
US 20070276012 A1 20071129 US 2007-577121 20070222
PRIORITY APPLN. INFO.: GB 2003-25174 A 20031028
WO 2004-EP12149 W 20041027

OTHER SOURCE(S): CASREACT 143:7703

AB A process for reducing an exocyclic double bond at the 5-position of a thiazolidinedione moiety of a thiazolidinedione precursor comprises: (a) preparing a solution or suspension of the thiazolidinedione precursor in a non-ether solvent medium with a base, and (b) combining the solution or suspension with a dithionite source. Thus, a mixture of 5-[4-[2-(5-ethyl-2-pyridinyl)ethoxy]phenylmethen yl]-2,4-thiazolidinedione (preparation given) and Na2CO3 in H2O/dioxane at 80° was treated with aqueous Na dithionite over 60 min. followed by stirring at 80° for 1 h and at 50° for 1 h to give 82% pioglitazone.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Process for preparing thiazolidinediones such as pioglitazone via reduction of exocyclic double bonds at the 5-position of thiazolidinediones using dithionite.

AB A process for reducing an exocyclic double bond at the 5-position of a thiazolidinedione moiety of a thiazolidinedione precursor comprises: (a) preparing a solution or suspension of the thiazolidinedione precursor in a non-ether solvent medium with a base, and (b) combining the solution or suspension with a dithionite source. Thus, a mixture of 5-[4-[2-(5-ethyl-2-pyridinyl)ethoxy]phenylmethen yl]-2,4-thiazolidinedione (preparation given) and Na2CO3 in H2O/dioxane at 80° was treated with aqueous Na dithionite over 60 min. followed by stirring at 80° for 1 h and at 50° for 1 h to give 82% pioglitazone.

ST thiazolidinedione prepn; exocyclic double bond redn dithionite; Pioglitazone Rosiglitazone Troglitazone prepn

IT Carbonates, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkaline earth carbonates; preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT Carbonates, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkali metal carbonates; preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT Reduction
(preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT Alkenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT Amidines
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT Amines, reactions
RL: RGT (Reagent); RACT (Reactant or reagent)
(secondary; preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT Amines, reactions
RL: RGT (Reagent); RACT (Reactant or reagent)
(tertiary; preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT 97322-87-7P, Troglitazone 111025-46-8P, Pioglitazone 112529-15-4P,

Pioglitazone hydrochloride 122320-73-4P, Rosiglitazone 155141-29-0P, Rosiglitazone maleate
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol, uses 68-12-2, Dmf, uses 75-09-2, Methylene chloride, uses 108-88-3, Toluene, uses 123-91-1, Dioxane, uses 141-78-6, Ethyl acetate, uses 1330-20-7, Xylene, uses 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT 109-09-1, 2-Chloropyridine 109-83-1, N-Methylaminoethanol 123-08-0, 4-Hydroxybenzaldehyde 459-57-4, 4-Fluorobenzaldehyde 2295-31-0, 2,4-Thiazolidinedione 5223-06-3 138564-64-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT 122320-74-5P 122321-03-3P 122321-04-4P 144809-28-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

IT 497-19-8, Sodium carbonate, reactions 584-08-7, Potassium carbonate 7775-14-6, Sodium dithionite 14293-73-3, Potassium dithionite 14844-07-6, Dithionite 15012-02-9D, Ammonium dithionite, tetraalkyl 15512-36-4, Calcium dithionite 52435-47-9, Magnesium dithionite 59744-77-3, Lithium dithionite 852447-79-1
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of thiazolidinediones via reduction of exocyclic double bonds using dithionite)

L5 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:995913 CAPLUS
DOCUMENT NUMBER: 141:420443
TITLE: Cystic fibrosis therapy with PPAR-γ inducers and antioxidants
INVENTOR(S): Freedman, Steven D.
PATENT ASSIGNEE(S): Beth Israel Deaconess Medical Center, USA
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2004098510 | A2 | 20041118 | WO 2004-US13412 | 20040430 |
| WO 2004098510 | A3 | 20050120 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,

AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 20060160867 A1 20060720 US 2005-262645 20051031
PRIORITY APPLN. INFO.: US 2003-466672P P 20030430
WO 2004-US13412 A2 20040430

AB This invention features methods for treating diseases associated with mutations in the CFTR gene by administering PPAR-γ inducers and/or antioxidants. Also disclosed are screening methods for identifying therapeutically useful candidate compds.

IT 3483-12-3, Dithiothreitol 6892-68-8, Dithioerythritol 14844-07-6, Dithionite 23134-05-6, Pyrosulfite
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cystic fibrosis therapy with PPAR- inducers and antioxidants)

IT 50-81-7, Vitamin C, biological studies 52-90-4, Cysteine, biological studies 53-86-1, Indomethacin 87-17-2D, Salicylanilide, derivs. 129-56-6, SP600125 328-90-5, 2-Hydroxy-4-trifluoromethylbenzoic acid 328-90-5D, 2-Hydroxy-4-trifluoromethylbenzoic acid, derivs. 458-37-7, Curcumin 500-38-9, Nordihydroguaiaretic acid 891-60-1, Declopramide 1406-18-4, Vitamin E 2295-31-0D, Thiazolidinedione, derivs. 7235-40-7, Beta-carotene 7782-49-2, Selenium, biological studies 10417-94-4, Eicosapentaenoic acid 15687-27-1, Ibuprofen 25769-03-3, 1-Pyrrolidinecarbodithioic acid 29679-58-1, Fenoprofen 29908-03-0 58186-27-9, Idebenone 97322-87-7, Troglitazone 122320-73-4, Rosiglitazone 160162-42-5 167869-21-8, PD98059 173026-17-0, BXT-51072 193295-10-2, STAT-induced STAT inhibitor 1 (mouse) 286465-43-8 286465-44-9 476198-73-9, Dexlipotam 796857-00-6, SSI 3 796857-01-7, SSI 2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cystic fibrosis therapy with PPAR-γ inducers and antioxidants)

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